

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A fuel cell An assembly for a fuel cell, comprising:
a fluid flow field plate having a plurality of field plate channels formed in a surface thereof of the fluid flow field plate that extend across the surface in a predetermined pattern;
a distribution foil having a plurality of distribution foil channels formed in a surface thereof, each distribution channel and extending from a first edge of the distribution foil to a second edge of the distribution foil, each of the plurality of distribution foil channels terminating at the second edge at different positions, each of the different positions being at positions substantially coincident with, and in direct fluid communication with, respective ones of the plurality of a respective field plate channel, the distribution channels providing water injection points for the field plate channels and enabling delivery of water directly into corresponding field plate channels at the water injection points; and
a cover foil extending over the distribution foil to enclose the distribution foil channels and thereby form conduits for water between the distribution foil and the cover foil.

2. (Currently Amended) The ~~fuel-cell~~ assembly of claim 1, wherein the distribution channels comprise foil comprises:

a first series of channels extending to the first edge of the distribution foil;
an array of channels, in communication with the first series of channels, forming a pressure distribution gallery; and
a second series of channels, in communication with the array of channels, extending to the second edge of the distribution foil.

3. (Currently Amended) The ~~fuel-cell~~ assembly of claim 1, wherein the distribution foil channels terminate at the second edge of the distribution foil at a plurality of convergence structures adapted to focus water flow into corresponding field plate channels in the fluid flow field plate.

4. (Currently Amended) The ~~fuel-cell~~ assembly of claim 3, wherein each convergence structure comprises a recess in the second edge of the distribution foil.

5. (Currently Amended) The ~~fuel-cell~~ assembly of claim 4, wherein the recess comprises an arcuate cut out in the second edge of the distribution foil.

6. (Currently Amended) The ~~fuel-cell~~ assembly of claim 1, wherein the distribution foil channels terminate at the first edge of the distribution foil at at least one supply manifold aperture in the fluid flow field plate.

7. (Currently Amended) The ~~fuel cell~~ assembly of claim 1, wherein the distribution foil is formed from stainless steel.

8. (Currently Amended) The ~~fuel cell~~ assembly of claim 1, wherein the distribution foil channels are chemically etched.

9 to 19. (Canceled)

20. (New) An assembly for a fuel cell, comprising:
a fluid flow field plate having field plate channels in a surface of the fluid flow plate and extending across the surface in a predetermined pattern;
a distribution foil having distribution channels in a surface of the distribution foil, the distribution channels each extending from a first position proximal to, or at, a first edge of the distribution foil to a second position proximal to, or at, a second edge of the distribution foil, each distribution channel terminating at a different second position, each different second position being substantially coincident with, and in direct fluid communication with, a respective field plate channel, the distribution channels for providing water injection points for the field plate channels and enabling delivery of water directly into corresponding field plate channels at the water injection points; and

a cover foil co-extensive with a substantial part of the distribution foil to enclose at least part of lengths of the distribution foil channels between the first and second positions and thereby form conduits for water between the distribution foil and the cover foil.

21. (New) The assembly of claim 20, wherein the distribution channels comprise:
a first series of channels extending to the first positions proximal to, or at, the first edge of the distribution foil;

an array of channels, in communication with the first series of channels, forming a pressure distribution gallery; and

a second series of channels, in communication with the array of channels, extending to the second positions proximal to, or at, the second edge of the distribution foil.

22. (New) The assembly of claim 20, wherein the distribution foil channels terminate at the second positions at convergence structures adapted to focus water flow into corresponding channels in the fluid flow field plate.

23. (New) The assembly of claim 1, wherein the distribution foil channels terminate at the first positions at at least one supply manifold aperture in the fluid flow field plate.

25. (New) The assembly claims 20, further comprising:

a series of fluid flow field plates, acting as cathodes and/or anodes, in a stack, each fluid flow field plate having a respective membrane-electrode assembly adjacent thereto.

25. (New) The assembly of claim 24, wherein each cathode fluid flow field plate has a distribution foil and a cover foil interposed between the each cathode fluid flow field plate and an adjacent membrane-electrode assembly.

26. (New) An assembly for a fuel cell, comprising:
a fluid flow field plate having field plate channels in a surface of the fluid flow field plate and extending across the surface in a predetermined pattern;
an adjacent membrane-electrode assembly (MEA) in contact with the fluid flow field plate over an active area of the MEA; and
a distribution membrane interposed between the fluid flow field plate and the MEA, the membrane having water conduits each extending therethrough between a first position proximal to, or at, a first edge of the membrane to a second position proximal to, or at, a second edge of the membrane, each of the water conduits terminating at a different second position, each different second position being substantially coincident with, and in direct fluid communication with, a respective field plate channel, the water conduits providing water injection points for the field plate channels and enabling delivery of water directly into corresponding field plate channels at the water injection points.

26. (New) The assembly of claim 26, wherein the membrane comprises a gasket of the fuel cell.

28. (New) The assembly of claim 27, wherein the water conduits comprise channels in a surface of the gasket adjacent to the fluid flow field plate.

29. (New) The assembly of claim 26, wherein the distribution membrane comprises a multilayer structure.